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ABSTRACT

A study examined the cost effectiveness of a summer school for failed first grade students and the long-term effects of first grade reading failure on reading achievement. Subjects, 361 students who were enrolled in the Cincinnati Public Schools' first grade in 1981, were given the California Achievement Test. Students who failed were denied promotion and attended a summer school where they subsequently scored high enough to be promoted. Scores for those students denied promotion to second grade were compared to students who did not fail, and the cost of the summer school and the savings as a result of promotions at the end of summer were estimated. Results indicated that the students denied promotion scored significantly better than those who did not, but that the difference all but disappeared after one year. Results of the cost-effectiveness calculation indicated that the summer school program was not cost effective. (Three tables of data are included.) (RS)

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THE LONG-TERM EFFECTS ON READING ACHIEVEMENT OF FAILING FIRST GRADERS

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The Long-Term Effects On Reading Achievement of Failing First Graders

Purpose

Over the past several years, the Cincinnati Public Schools (CPS) have failed, on average, about 470 first grade students annually. Historically, at the end of the year of failure, these students had an average Total Reading Score on the California Achievement Test (CAT) of approximately 28 NCEs*. After repeating the first grade, the average NCE was 50. Originally, this appeared to be a gain which fully justified repeating the first grade. In later years, however, the average NCE began to decline. The primary purpose of this study is to assess the long-term effects of first grade failure on Reading Achievement.

While the percent of first graders being failed remained relatively constant (between 10 and 11 percent) the cost of repeating the grade increased substantially from over $828 thousand to over $1,464 thousand in 1986 (Table 1). During the summer of 1987-88, a summer school was offered to 240 failed first grade students. Students could have been promoted at the end of the summer school. A secondary purpose of this study is to investigate whether a summer school for the failed students would be cost-effective.

Table 1. The Cost of Repeating First Grade 1981-86

School Year	Percent Of 1st Grade Failed	General Fund Cost To Repeat In Thousands
1980-81	10%	$ 828
1981-82	11	892
1982-83	9	882
1983-84	11	1,182
1984-85	11	1,393
1985-86	10	1,464

* National curve equivalent

Design

Out of the (first grade) class of 1980-81, it was possible to identify 361 student pairs. A total of 361 failed first graders were matched with 361 promoted first graders on the basis of race and Total Reading NCE score on the California Achievement Test. Matches were available for students with an NCE score of at least 10. The NCE scores for the failed students for 1981-82 school year were not included in the following analyses. Five T-tests for differences between the matched pairs were made (Table 2).

With respect to the secondary purpose of the study: a) the cost of the summer school was estimated, b) the savings as a result of promotions at the end of the summer were also estimated. The difference between cost and savings were then computed.

Table 2. Year of T-test for Matched Pairs

T-Test	Passed	Failed
First	1981-82	1982-83
Second	1982-83	1983-84
Third	1983-84	1984-85
Fourth	1984-85	1985-86
Fifth	1985-86	1986-87

Results

At the end of the first grade (1981), both passed and failed groups had an average NCE of 31. For the first T-test (scores from 1982, passed group; 1983, failed group) there was a statistically significant difference ($p<.01$) in favor of the failed group. This represented a difference of 10 NCEs. The difference shrank to three NCEs on the second T-test and remained at approximately this level thereafter (Table 3).

Table 3. Significance of Differences In Total Reading NCE Score Between Passed and Failed First Graders

	Paired T-Test		$\bar{X}$ NCE	
T-Test	df	p	Passed	Failed
First	285	.000*	34	44
Second	231	.016	39	42
Third	191	.137	39	41
Fourth	185	.075	38	41
Fifth	160	.112	38	41

* Significance $<.01$

With respect to the summer school, the estimated cost for the 240 failed first graders was $77,300. The estimated savings due to promotion of 23 students was $66,700. This resulted in a loss of $10,630. Thus summer school was not a cost effective alternative.

Discussion

Although not a focus of this study, about 12% of the failed group and about 31% of the passed group were subsequently failed again. On the basis of a single study of one 1st grade class for a total of six years, a policy which allows failing of any first grader with a Total Reading NCE of 10 or higher might be questioned. This study is, however, too small in scope to support a change in promotions policy. The students in the study should be followed through high school with attention given to drop-out rates as well as later academic achievement. Studies of later classes should also be initiated.

References

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